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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/522,709	03/10/2000	Fernando L. Alvarado	43920-032	5984

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EXAMINER	
CHANDLER, SARA M	
ART UNIT	**PAPER NUMBER**
3693	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/522,709	ALVARADO ET AL.	
	Examiner	Art Unit	
	Sara Chandler	3693	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01/24/07*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,17,19 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,17,19 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This Office Action is responsive to Applicant's arguments and request for reconsideration of application 09/522,709 (03/10/2000) filed on 01/24/07.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-3, 17 and 19-20 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1, 17 and 19 do not produce a "useful, concrete and tangible" result in the "Method/computer-readable medium bearing instructions/system for managing risk in a market related to a commodity delivered over a network". It is unclear how the present application manages risk as recited in the preamble or achieves some other result desired. It is unclear what the effect of reducing the congestion prices would be and whether that reduction will manage the risk in the market.

The results of applicant's invention in arriving at a probable success factor is clearly not the same results found in *State Street Bank & Trust Co. V. Signature Financial group, Inc.,* 149 F 3d 1371; 47 USPQ 2d 1599 decided by the U.S. Courts of Appeals. "Today we hold the transformation of data representing discrete dollar amounts by a machine through a series of mathematical calculations into a final share price constitutes a practical application of a mathematical algorithm, formula or calculation because it produces a useful, concrete and tangible result, a final share

price momentarily fixed for recording and reporting purposes".

Therefore, the present invention is nothing more than generalizations regarding the various factors to be taken into consideration, and it is short on any particular or specific direction or guidance in achieving the desired results and in providing a concrete result. Consequently, the claims are analyzed based upon the underlying process and thus rejected as being directed to a non-statutory process.

Dependent claims 2,3 and 20 are rejected based on the same rationale.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3,17 and 19-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re Claim 1: The claim recites, "using a computer for.....". These limitations merely provide the intended use of a computer. For example, the steps to be performed could be, "modeling locational prices of the commodity, using a computer.....," or "producing a combination of price risk instruments, using a computer....."

Re Claims 1, 17: The preamble of the claims recites, "a method of using a computer for/a computer-readable medium bearing instructions for managing risk in a market related to a commodity delivered over a network" however, this is not accomplished; the claims recite the "a combination of price risk instruments" however, the context for this combination is not defined;

the claims recite "in a proportion". In proportion to what?;

the claims recite "such that an effect of the congestion prices for the congestible lines on the locational prices of the commodity is reduced." This is a statement of the intended result and is not given patentable weight.

Re Claim 19: Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: The claim recites a system but, lacks structure and does not have functionality. What the portfolio comprises amounts to nonfunctional data because the system does not play a role. What are the specific features of the system that can generate the claimed portfolio?

Re Claim 20: Claim 20 recites the limitation "congestible lines". There is insufficient antecedent basis for this limitation in the claim.;

Claim 20 recites the limitation "a number of the price risk instruments is greater than a number of the at least some congestible lines". The meaning of the limitation is unclear, "a number of....." could be anything thus what is meant is unclear, "at least some" is unclear because "some" is a relative term and its meaning is not definite and "at least" does not help to clarify the meaning.

Dependent claims 2,3 and 20 are rejected based on the same rationale as the claims from which they depend.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

"Statistical Thinking for Managers," Fourth Edition, by Hildebrand and Ott. Copyright 1998 by Brooks/Cole Publishing Company. Pgs 556 – 604, 709 (hereinafter Hildebrand et. al.) in view of,

"Pricing Scarce Transmission In a Bilateral Market," by Steven Stoft, January 31, 1998. (hereinafter Stoft);

"Investments," Third Edition, by Bodie, Kane and Marcus. Copyright 1989 by The McGraw-Hill Companies, Inc. Pgs. 697-701, 810-830, G6 (hereinafter Bodie et.al.); and

"Primer on Electricity Futures and Other Derivatives," by S. Stoft, T. Belden, C. Goldman, and S. Pickle, January 1998. (hereinafter S.Stoft et. al.).

Re Claims 1-3, 17: Hildebrand discloses, linear modeling techniques such as:

$$Y = B^0 + B^1X^1 + B^2X^2$$

Y = dependent variable

B^0 = intercept

B^1, B^2 = coefficients, represents predicted Δ in each respective dependent variable, holding other independent predictor variables constant, for one unit change in the respective independent variables.

X^1, X^2 = independent predictor variables (Hildebrand, pgs 556 – 604, 709)

(Examiner notes: The Hildebrand disclosure is representative of knowledge old in well-known to one of ordinary skill in fields including mathematics, statistics and business at the time of the invention. As Hildebrand suggests, Every manager faces situations in which changes or variations in something need to be understood and predicted and in which many plausible indicators point to the predicted change." Hildebrand, pg. 556. The use of models help to address this problem.)

Hildebrand fails to explicitly disclose:

using a computer for modeling locational prices of the commodity in the market as a linear combination of congestion prices for congestible lines in the network; and

using a computer for producing a combination of price risk instruments for the market in a proportion such that an effect of the congestion prices for the congestible lines on the locational prices of the commodity is reduced.

Stoft discloses:

the computation of congestion prices for congestible lines in the network;

and suggests that congestion prices can be used to compute locational prices since the congestion prices for congestible lines in the network are predictors of the scarce transmission resources that would be required at different locations (Stoft, pgs. 1-8).

In other words, the locational prices and/or their asscociated risk, volatility (i.e., dependent variable) can be predicted by using a model that incorporates the combination of congestion prices for congestible lines in the network (i.e., independent predictor variables).

Bodie et. al. discloses, hedging strategies such as:

taking a position in a financial instrument or instruments (e.g., derivatives such as futures) that is opposite to, or offsets the exposure caused by the original position held so as to minimize risk and exposure. (Bodie et. al., pgs. 697-701, 810-830, G6). (Examiner notes: The Bodie disclosure is representative of knowledge old and well-known to one of ordinary skill in the art in fields such as business where there is a desire to use hedging strategies to reduce or eliminate risk associated with price volatility, interest rates changes, inflation etc.)

S. Stoft et. al. discloses:

producing a combination of price risk instruments for the market in a proportion such that an effect of the congestion prices for the congestible lines on the locational prices of the commodity is reduced (S.Stoft et. al., pgs. ix,xv, 1-44, particularly pgs ix, 1,14-15,20-22,24-25,29), and

wherein these sorts of hedging decisions used to eliminate or reduce exposure are made using computer models (S.Stoft et. al., pgs. ix,xv, 1-44, particularly pgs ix, 1,14-15,20-22,24-25,29).

In other words, the position held in a combination of price risk instruments (i.e., the financial instrument or instruments used in the hedging strategy) can be used such that the effect of the congestion prices for the congestible lines on the locational prices of the commodity are reduced (i.e., reducing or eliminating the risk or exposure caused by the original position held).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Hildebrand et.al., Stoft, Bodie et. al. and S.Stoft et. al. to provide a method of using a computer/a computer-readable medium bearing instructions for managing risk in a market related to a commodity delivered over a network, comprising the steps of: using a computer for/ modeling locational prices of the commodity in the market as a linear combination of congestion prices for congestible lines in the network; and using a computer for/ producing a combination of price risk instruments for the market in a proportion such that an effect of the congestion prices for the congestible lines on the locational prices of the commodity is reduced.

As suggested by S.Stoft et. al. increased competition for commodities (i.e., such as power and electricity) will lead to greater price volatility, and price risk instruments (i.e., such as derivatives) can help market participants manage or hedge these prices risks (S.Stoft et. al. pgs. ix,1).

Re Claims 19-20: Hildebrand discloses, linear modeling techniques and where these techniques can be used to understand and predict the position held by participants in a market. (Hildebrand, pgs 556 – 604, 709) (see also the discussion supra for claims 1-3 and 17).

Hildebrand fails to explicitly disclose:

a computer-based system configured to generate a portfolio having a plurality of price risk instruments;

the portfolio comprising:

the a plurality of price risk instruments for a market related to a commodity delivered over a network,

wherein the price risk instruments y are proportioned such that z'A - y'P'A = 0,

A represents distribution factors describing the physics of power flows in the network, P represents the available market of price instruments, z represents a market participant's underlying position in the market at a prospective time T,

and

primes denote transpositions.

Stoft discloses:

a market related to a commodity delivered over a network (Stoft, pgs. 1-8, particularly pgs. 1-3)

including z'A where A represents distribution factors describing the physics of power flows in the network, and z represents a market participant's underlying position in the

market at a prospective time T, and wherein primes denote transpositions (Stoft, pgs. 1-8, particularly pgs. 1-3).

In other words, the position held by participants in a commodities market and the exposure associated with it are not only associated with the price but, also the distribution factors.

Bodie et. al. discloses, hedging strategies that can reduce or eliminate exposure (Bodie et. al., pgs. 697-701, 810-830, G6). (see also the discussion supra for claims 1-3 and 17).

S.Stoft et. al. discloses:

a computer-based system configured to generate a portfolio having a plurality of price risk instruments (S.Stoft et. al., pgs. ix,xv, 1-44, particularly pgs ix, 1,14-15,20-22,24-25,29);

the portfolio comprising:

the a plurality of price risk instruments for a market related to a commodity delivered over a network (S.Stoft et. al., pgs. ix,xv, 1-44, particularly pgs ix, 1,14-15,20-22,24-25,29),

wherein the price risk instruments y are proportioned such that z'A - y'P'A = 0,

A represents distribution factors describing the physics of power flows in the network, P represents the available market of price instruments, z represents a market participant's underlying position in the market at a prospective time T, and primes denote transpositions (S.Stoft et. al., pgs. ix,xv, 1-44, particularly pgs ix, 1,14-15,20-22,24-25,29).

In other words, the position held in the price risk instruments and the associated distribution factors (i.e., the financial instrument or instruments used in the hedging strategy) eliminates or offsets the exposure associated with the positions originally held by participants in the commodities market and the associated distribution factors.

It would have been obvious to one of ordinary skill in art at the time the invention was made to combine the teachings of Hildebrand et.al., Stoft, Bodie et. al. and S.Stoft et. al. to provide a portfolio generating system and portfolio comprising: a computer-based system configured to generate a portfolio having a plurality of price risk instruments; the portfolio comprising: the a plurality of price risk instruments for a market related to a commodity delivered over a network, wherein the price risk instruments y are proportioned such that z'A - y'P'A = 0, A represents distribution factors describing the physics of power flows in the network, P represents the available market of price instruments, z represents a market participant's underlying position in the market at a prospective time T, and primes denote transpositions.

As suggested by S.Stoft et. al. increased competition for commodities (i.e., such as power and electricity) will lead to greater price volatility, and price risk instruments (i.e., such as derivatives) can help market participants manage or hedge these prices risks (S.Stoft et. al. pgs. ix,1).

Note: Claims 1-3,17 and 19-20 have been given their broadest reasonable interpretation consistent with MPEP §2111. Commodity- is any article of trade or commerce. Hedging is an investment strategy used to reduce or cancel out the risk in another investment. Price Risk Instrument- is any real or virtual document/instrument

representing a legal agreement involving some sort of monetary value wherein the document/instrument may be used to "hedge" the volatility or risk associated with prices. Derivatives (e.g., futures, forwards, options, swaps) are an example of financial instruments that are also price risk instruments.

Response to Arguments

Applicant's arguments with respect to claims 1-3,17 and 19-20 have been considered but are moot in view of the new ground(s) of rejection.

Measures taken by Applicant to more clearly articulate what is the invention would help to advance prosecution

1. What features or characteristics of the model proposed by the Applicant are unique to the modeling of locational prices such that it would it would not be obvious in view of old and well-known modeling techniques? This should be in the independent claims.

2. What are the features and characteristics of the prices risk instruments? What differentiates these price risk instruments from derivatives or other instruments used to hedge risk associated with commodities like utilities as admitted by applicant (Pgs. 3-5 of Applicant's disclosure). This should be in the independent claims.

3. Must the portfolio or combination of instruments include a plurality of instruments, different types of instruments etc.? What process or methodology is undertaken to establish which instruments are included or excluded from this combination or portfolio? What "proportion" is referred to in the claims (i.e., the relative proportion of one instrument type to another or something else)? This should be in the independent claims.

4. The claimed invention needs to recite what is the result, outcome, or benefit that is derived. This should be in the independent claims.

5. The claimed invention is very broad and appears to be directed to the steps of identifying an exposure present in the commodities industry and hedging against that exposure. This concept is not novel. See also MPEP § 2111. The claims should recite the active steps required in the method claims and structural elements required in the system claims. The system claim (claim 19 is particularly lacking the structural elements that are necessary for the functionality of the claimed invention.

6. Applicant should be mindful of language that raises a question as to the limiting effect of the language in the claim. The claims recite language such as "using a computer for" which is an intended use recitation. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

MPEP § 2106 II C states:

> USPTO personnel should begin claim analysis by identifying and evaluating each claim limitation. For processes, the claim limitations will define steps or acts to be performed. For products, the claim limitations will define discrete physical structures or materials. Product claims are claims that are directed to either machines, manufactures or compositions of matter.
>
> The subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim will dictate whether the language limits the claim scope. Language that <u>suggests or makes optional</u> but does not require steps to be performed or does not limit a claim to a

particular structure does not limit the scope of a claim or claim limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim:

(A) statements of intended use or field of use,
(B) "adapted to" or "adapted for" clauses,
(C) "wherein" clauses, or
(D) "whereby" clauses.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following inventions relate to commodities trading:

Lange, US Pat. No. 6,321,212;

Takriti, US Pat. No. 5,974,403;

"Managing Transmission Risk: The Theory of Spatial Hedging and Arbitrage," by Rajesh Rajaraman and Fernando L. Alvarado (November 19, 1998).

"Independent System Operator: Pricing and Flexibility in a Competitive Electricity Market," by William Hogan (February, 1998).

"Market Power in California Electricity Markets," by Severin Borenstein, James Bushnell, Edward Kahn, and Steven Stoft (March, 1996).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Chandler whose telephone number is 571-272-1186. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Kramer can be reached on 571-272-6783. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SMC

4/27/07

JAGDISH N. PATEL
PRIMARY EXAMINER